CITY OF FRESNO BICYCLE, PEDESTRIAN, AND TRAILS MASTER PLAN SCOPE OF WORK

This scope of work provides a detailed explanation for the methods, services, and deliverables proposed by Fehr & Peers, Mark Thomas & Company, Inc., Economic & Planning Systems, Inc., Quad Knopf, and Designlab 252 (the Consultant) for the Bicycle, Pedestrian, and Trails Master Plan (the Plan).

Task 1: Project Initiation and Management

Task 1.1 – Kick-off Meeting

A kick-off meeting will be held with the City of Fresno staff to:

a. Develop objectives of the Plan with City staff (i.e. how does the City staff see the end product)

b. Collect available data and published materials

c. Establish meeting and presentation schedules

d. Establish communication channels with other departments

e. Establish a plan for coordinating with local governments and agencies

f. Determine the format for the project web page

Task 1.2 – Form a Technical Advisory Committee (Fehr & Peers)

At the direction of City staff, the Consultant will help to form a Technical Advisory Committee (TAC) for this project. The TAC may include members from the following groups or agencies:

- City of Fresno Public Works Department
- City of Fresno Planning and Development Department
- City of Fresno Police Department
- City of Fresno Fire Department
- City of Fresno Public Utilities Department
- City of Fresno Parks Department
- Council District (Members)
- FAX
- County of Fresno
- City of Clovis
- School Districts
- Fresno Irrigation District (FID)
- Fresno State University
- Fresno Pacific College
- Fresno City College
- BIA
- Bicycle Pedestrian Advisory Committee
- Bicycle Work Group
- Tree Fresno
- Caltrans
- Fresno COG
- Chamber of Commerce
- Fresno County Health Department
- Air Quality Management District
- Public Utilities Commission

At a minimum the Consultant will meet with the TAC on the following key topics:

1. Design Standards
2. Policy Review and Data Collection Plan
3. Existing Conditions Assessment
4. Proposed Bicycle System
5. Implementation Plan
6. Safety, Education and Promotion

Task 1.3 – Form a Bicycle Advisory Group (Fehr & Peers)

To assist in the development the Consultant will assist in the creation of a Bicycle Advisory Group (BAG). It is anticipated that the existing BPAC will serve as the BAG. The Consultant will meet with the BAG at least four times during the course of the study:

1. Start-up – to communicate study objectives, review the scope and take input
2. Early planning – to present the policy review work and data collection plan
3. Draft Plan – to present the draft system plan and take input on the system and the process through which capital improvements will be ranked
4. Final Plan – to present the refined plan including the ranked capital improvement program

We will work with City of Fresno staff through meetings, visitations, phone conversations, and e-mails throughout the study process to update staff and the TAC on the project status, discuss findings, and receive input in the planning process. We will develop and distribute meeting agendas at least five days before the scheduled meetings, and prepare agendas, minutes, and supporting visual aids such as maps and handouts to assist the discussions.

Task 1.4 – Coordination with the City and Cities (Fehr & Peers)

The Consultant proposes monthly progress meetings with the City Project Manager (Bryan Jones), to allow City staff to guide the study throughout the duration of the study. The following two milestones during Plan preparation will prompt additional meetings with local agencies and various City departments:

1. Project Start-Up
2. Administrative Draft Plan

As appropriate, additional outreach will take place as part of development of conceptual plans for specific bicycle improvement projects. We will define the extent and nature of this outreach on a project-by-project basis in coordination with the City. The two coordination efforts that will be part of the Plan development are described below.

<u>Project Start-Up</u>

External Agency Meetings – The Consultant will gather background information on local bicycle plans, general plans, campus master plans, safe routes to school programs, safety and education programs, and Capital Improvement Programs (CIP) before initiating contact with the following jurisdictions, agencies, and institutions: the City of Clovis and County of Fresno; the agencies represented on the TAC including Fresno COG, Fresno Transit (FAX), and the Air Quality Management District; and the regional educational facilities of Fresno State University, Fresno Pacific University, and Fresno City College. We will develop a matrix comparison of policy objectives and map existing and proposed bicycle facilities. We will send this information to each municipality

requesting updates and comments. As appropriate, we will meet with each agency. We will focus our efforts on connecting local facilities to City bicycle facilities and on gaining a better understanding of local desires for bicycle facilities within the City.

Internal Meetings – The project team will meet with departments likely to be affected by the Bicycle Master Plan, including Planning and Development, Public Works (including maintenance), Parks, Fresno Irrigation District, and, as appropriate, school districts. Through department representation on the TAC, the Consultant will present and solicit input on the proposed project work scope, identify data availability (we will present a list of data needs), benchmarking standards, and clarify communication channels.

Administrative Draft Plan

Internal Meetings – We expect that key representatives from the City will be involved with the development of the Administrative Draft Plan, including attending public meetings and participating in regular coordination meetings. The intent of these meetings will be to present the Plan to those departments and City representatives who have not been active participants to assure that the Plan has broad support. During these meetings, the consultant and City team will present the draft policy and capital improvement elements of the Plan, soliciting input and feedback.

External Meetings – After assuring internal support, the Consultant will send the Administrative Draft Bicycle Master Plan to each affected agency within the City, requesting feedback. We will meet with these agencies as necessary.

Task 2 – Public Outreach

Task 2.1 – Public Workshops (Quad Knopf & Designlab 252)

We propose to hold public workshops where one, we will present our approach to the public and two, present findings on existing and proposed facilities. The types of workshops we hold will ultimately depend on the level of community interest. Following is an initial concept for the public workshops.

Public Workshop #1: Present objectives and purpose of study, preliminary findings on existing conditions, needs analysis, and deficiencies and opportunities. Give a slide show on elements of the Plan and show existing systems in City of Fresno and other systems in California. Solicit input on needs and concerns; record comments and use as a basis for planning exercise. The Consultant will provide an overview of current Caltrans, AASHTO, and ADA requirements.

Public Workshop #2: The Consultant will present key findings of the Plan and proposals. The workshop will allow the public to make comments on the draft bicycle master plan.

Our team will provide the graphics, slides, and other materials for the public workshops. We will help develop a press release for the local paper and a flyer for posting in public places and bike shops. We believe that meaningful, consistent involvement by the TAC and BAG is of the utmost importance in producing a document that meets the needs and expectations of the local communities.

Task 2.2 – Community Feedback (Quad Knopf & Designlab 252)

In addition to conducting public workshops, the Consultant will conduct bicycle-user surveys via both a web-based interface and a mail-in survey.

Conducting a survey of residents is an effective way of involving the community in the planning process and gaining insight into how well the existing bike system is meeting the needs of the community. We will develop draft survey questions (approximately 15 to 25) to elicit information on the following major topics:

- Most desired origins and destinations
- Current bike travel routes to and within the City

- Existing barriers to bicycling in the City
- Preferred list of new bicycle facilities both on-street and off-street
- Preferred trail connections and crossing locations

The consultant will develop a travel log type of survey. The travel log survey will be distributed to a select group of citizens. It will be used to gather detailed information of bicycle travel patterns, included time of day for trips, origins and destinations, and travel routes.

The consultant will work with local bicycle organizations, the medical community, school districts, Fresno State, Fresno Pacific University, Fresno City College, Tree Fresno and other trail advocacy organizations to promote the development of the master plan and to distribute the survey. We intend to solicit input and promote involvement in the plan development at local bicycle events such as the Amgen Bicycle Race, Bike to Work Day, and other local bicycle races/events.

Working with local cycling organizations the consultant will develop and participate in an tour of existing bicycle facilities. The tour is planned to be done on bicycle.

The Consultant will conduct the survey, summarize the results, and provide the Consultant with summary data of the responses. We have significant experience in analyzing and interpreting survey results to guide the planning process. We will use the survey results to better understand why obstacles prevent residents from riding, and to identify potential improvements necessary to provide a comprehensive system of bikeways.

Task 2.5 – Web Page (Fehr & Peers)

The Consultant will prepare and host a web-based project management for the project, which will enable effective collaboration via the Internet. The web site could be used as a scheduling tool, resource sharing site, and host to the bicycle-user survey. The web site will help bridge the gap between great work and great communication by allowing open and/or member-only access to project news, documents, and calendars. The web site can provide document libraries, announcements, tasks lists, multimedia-ready discussion threads (similar to blogs), anonymous participation, voluntary opt-in for automatic announcements and updates, contact lists, opinion polls, and member lists. The team will investigate the ability to allow citizens to post comments on the web page via a Google Earth interface.

<u>Unique Advantages</u>

There are many advantages to using a web site interface in addition to, or replacement of, traditional printed reports:

- Real-time, and anytime, collaboration
- Access to project information 24 hours a day
- Ability to set up permissions and privileges to support sensitivities
- Flexibility for the reviewer to decide which information they'd like to see
- Pre-built architecture allows for quick site launches and easier maintenance
- Numerous functions and tools to facilitate communication and feedback

The web site could be a resource that could continue after the completion of the project as a source of bicycle news in Fresno.

Task 3: Develop Revised Policies, Goals, and Objectives

Task 3.1 – Review Existing Plans and Policies (Team)

The Consultant can establish a creative vision and direction for bicycle planning by reviewing existing plans, goals, and objectives in City of Fresno. These include bicycle policies developed in the General Plan Circulation Element and other sources. For the sake of comparison, we will utilize our library of plans from around the country and provide a summary of goals and policies from comparable communities to the City of Fresno plus trend-setting areas (in the fields of bicycle planning) such as Seattle, Portland, State of Florida, State of Oregon, Fresno, Phoenix, Boulder, Madison, and 20 other communities. The summary will include policies from national organizations such as the National Recreation & Park Association, American Planning Association, Rails-to-Trails Conservancy, Association of Bicycle & Pedestrian Professionals, Institute of Transportation Engineers, and other groups.

Task 3.2 – Develop New Policies, Goals, and Objectives (Fehr & Peers)

We will build on existing documents and work with staff, the TAC, and the BAG to develop consistent overall goals and objectives for the Bicycle Master Plan.

Goals, or future visions, will be developed out of existing efforts by the City, the TAC, the BAG, and public workshop input. They will be supplemented by bicycle goals from other communities and those developed by state and national bicycling organizations.

Objectives, or directions, are more specific statements under each goal or vision that define how policies will be achieved. For example, one goal may be to "develop a system that is accessible by a wide variety of user groups." An objective under that vision may be to "provide a new bicycle alternate route to attract less experienced riders."

Policies and Standards will be developed out of the broader goals and objectives. Policies will be used as a framework for the institutional/administrative arrangement within the City that will manage the future bicycle system. These will address the following issues:

- Land use compatibility and consistency
- Safety
- Connectivity
- Education
- Implementation
- Funding
- Design and operation standards
- Performance standards for development
- Monitoring and maintenance standards
- Inter-department coordination

Evaluation criteria that reflect these goals, objectives, and policies will be established under a later task. Draft goals, objectives, and policies will be presented to the staff, TAC, BAG and affected parties for review and comment.

Task 4: Inventory Facilities

To expedite this task and save resources, giving the City of Fresno maximum value, we will utilize previous work efforts (such as the adopted General Plan). Our team is familiar with many of the existing resources from previous work in City of Fresno, and from our personal knowledge of the City. The project team proposes to use existing aerial photography and City TransMap data to identify roadway features such as number of lanes, appearance of potential bike facilities, and potential deficiencies. For all constraint points such as bridges, undercrossings, and

railroad crossings, we will collect and review the mapping position. We can assess the constraint points in greater detail and evaluate the design improvements for potential facilities.

Task 4.1 – Review Information on Existing Routes and Facilities (Team)

The Consultant will manage the data collection effort as efficiently as possible and turn over the data in GIS format. Materials for City review include:

a. Inventory of the existing local and regional bikeway system

b. Previous bicycle, recreation, pedestrian, and transportation reports

c. General Plan Circulation Element

d. City of Fresno Standards

e. County of Fresno Standards

f. City of Fresno Capitol Improvement Plan

g. 2007 Regional Transportation Plan

h. Zoning ordinance (including standards and requirements for new developments to provide bicycle parking)

i. Bicycle, transportation, trail, and recreation planning and design standards

j. Base maps/aerial photographs

k. Land use and population density information

l. Employment, visitor, and shopper information

m. Traffic volumes (ADT or peak hour) on major arterials

n. On-street bicycle lane widths

o. City of Fresno TransMap Data

p. Improvement plans for overlay or road widening projects that include bike lanes

q. Collision data

r. Existing City maintenance practices (overlays, slurry seals, street sweeping)

In addition, we will incorporate bicycle facility improvements previously completed and collect relevant materials from adjoining communities to establish good connectivity. Our previous work in and around City of Fresno will expedite this process.

The potential list of GIS data layers and attributes collected in the field are:

<u>Existing Bikeways</u>

- Classification (I, II, or III)
- Conformance to Standards (City of Fresno, Caltrans)
- Pavement Condition (visual inspection)

- Presence and Condition of Striping, Stencils and Signs
- Presence of Bicycle Signal Detection (visual inspection)
- Inventory of Constraint Points (railroad tracks, drainage grates, bridge structures, etc.)

Roadway Features

- Verify Bike Classification
- Number of Lanes
- Posted Speed Limit

On-Street Conditions

- Pavement Conditions (visual inspection)
- Bike Lane Width
- On-Street Parking (by type)
- Bridges, Railroad Crossings, and River/Canal crossings

Once we field verify the data, we will assemble the data back into the GIS system. We will put the data through a QA/QC process before using it for the suitability analysis.

The Consultant will use ESRI's ArcGIS software to map the existing conditions that include some of the following data layers:

- Roadway Centerlines
- Bicycle Facilities
- Deficiencies
- Water Features
- Environmentally Sensitive Land
- Incorporated City Boundaries
- Parcel Boundaries with Land Use
- Collision data
- Key Attractors
- Employment Intensity
- Residential Density

The mapping will display a spatial relationship between the different features and the existing bike facilities. This mapping exercise will quickly show the disconnection between the various bike facilities and between existing bikeways and major land use features. The maps will be a means of visually communicating analysis results for the report documentation, the City's review, and for public presentations.

The Consultant will work with City of Fresno's GIS data for the development of the Bicycle Master Plan. To ensure the integrity of the City's GIS data, we will maintain the City's coordinate system and attributes. The additional data fields that the Consultant will create through the project development will be flagged so our data fields are distinguishable from the City's. We will maintain the metadata throughout the process of the project so City staff will have the most complete and up-to-date information about the data. Our data will be stored in an ESRI Geodatabase for our modeling purposes. Upon completion of the project, The Consultant will provide the following data layers on CD in the following format:

ESRI Geodatabase and Shapefiles

- Roadway Centerlines
- Existing Bike Facilities
- Proposed Bike Facilities
- Transit Routes and Stops
- Collision Locations
- Deficiencies
- On-Street Parking (by type)

Suitability Analysis Layers (ESRI Grid Layers)

- Roadway Classification
- Posted Speed
- Number of Lanes
- Average Daily Traffic Volume (ADT)
- Transit Routes
- Collision Locations
- Regional Connections
- Residential Density
- Employment Intensity
- Major Destinations
- Land Use
- Land Use Proximity
- Physical Barriers

Task 4.2 – Create Index to Evaluate Potential Bikeways (Fehr & Peers)

We will evaluate natural and man-made corridors as potential bikeways, including creeks, flood channels, parks, railroad right-of-ways, utility corridors, and roadways. To rate the existing and proposed bicycle routes, we are proposing to use a suitability index, which provides information similar to that of Bicycle Level of Service (BLOS), but has additional inputs relative to historic safety performance and adjacency to compatible land uses. A suitability model will help determine the comfort level and potential users (experienced or inexperienced) of existing on-street bicycle facilities, and where new bicycle facilities could afford high levels of user comfort. All data layers and attributes are scored with a numeric value ranging from favorable to unfavorable. Some of the variables used to determine the comfort score are:

- Roadway Type
- Presence and Width of Bike Lane or Shoulder
- Curb Lane Width
- Vehicle Speed
- Average Daily Traffic Volume
- Historical Collision Data
- Land Use Type Proximity

We will use ESRI's Spatial Analyst to create the grid layers and assign the score based on the attribute value. We will develop a shell scoring system using a numeric range of 1 through 5; the lower the score, the least favorable the attribute is. However, once we create the model, we will apply a weighted factor for each variable. The weighted factor will be determined based on community involvement through bicycle surveys. After we run the model with the weighted score, the model will graphically show deficiencies and opportunities. At this point we will have sufficient information to apply potential improvements to the existing system and rerun the model to determine the improved comfort score. This may be an iterative process to determine the most appropriate and effective improvement types to the various locations in the model. When we have created the final model, the output score will determine the priority of each improvement.

This system allows staff to consider implementation problems as part of the planning process, and avoids developing a system that must be reworked later to reflect implementation difficulties.

We will identify preferred access routes to recreational, shopping, and employment destinations in City of Fresno based on (a) existing systems, (b) directness and convenience for bicyclists and pedestrians, and (c) connectivity to the surrounding residential areas and major destinations.

Task 5: Needs and Demand Analysis

We propose to complete a user needs and demand analysis of bicyclists in City of Fresno to determine the needs of cyclists of all ages and abilities, plus a physical needs analysis of existing opportunities and constraints.

Task 5.1 – Bicycle Usage Estimates (Fehr & Peers)

The Consultant will develop a bicycle demand model that tiers from the Environmental Protection Agency's Smart Growth INDEX. We have developed a similar GIS-based model for the City of San Jose using primarily off-the-shelf information (Census and land use data from the City's traffic model). Inputs into the bicycle demand model are:

- University Influence (distance to and enrollment in universities)
- Residential Density
- Employment Density
- Land Use Mix
- Vehicle Ownership rates
- Average Incomes
- Average Household Size
- Recreation Influence (distance to and usage levels of recreational facilities such as parks, trails, and community gathering places).

The product of this model is a block-by-block estimate of the latent demand for bicycling. This analysis will be conducted for existing land uses and the top 20 locations for latent bicycle demand will be field verified (counted) to validate the base year model. A future forecast will also be conducted using land use projections contained in the Fresno COG model.

Task 5.2 – Safety Needs (Fehr & Peers)

Safety concerns are the most common reasons given for not riding a bicycle (or riding more often), according to national and local surveys. Many bicyclists complain that motorists simply do not see or are openly hostile on roadways. Bicycle collision research throughout California shows a similar pattern: the most commonly reported

bicycle/vehicle collisions are broadsides that occur at busy arterial intersections in the late afternoon. Coincidentally, many of these bicyclists involved in accidents are younger people who are often improperly trained. Both of these issues point to the need for increased education – for bicyclists and motorists alike.

Bicycle safety will be measured in two ways: (1) reviewing representative existing bicycle education programs being offered in the City and comparing these with other programs throughout the City, state and country, and (2) conducting collision analysis (see Task 5.3).

We propose to use both approaches. We will also talk with representatives from the California Highway Patrol (CHP), Police Department, Public Works Department, and active bicyclists to understand some of the existing specific liability concerns, enforcement issues, and safety hazards in City of Fresno.

Task 5.3 – Collision Analysis (Fehr & Peers)

Collision data is one the elements to be mapped in the bike suitability analysis described in Task 4. As part of this effort, we will have mapped schools and other major bicycle attractors, and as a part of Task 5.1 we will have latent bicycle demand. This data will allow us to conduct a collision analysis that is far more sophisticated than the traditional map of collisions in the last several years. While we will produce this map, we will also produce maps of the following:

- Locations with high number of bicycle-related collisions
- Collisions involving children

To the extent that the City generates other collision-related research analysis for the Consultant team to conduct, and to the extent that we have data to support the analysis, we will conduct additional analyses.

In addition to mapping collisions, the Consultant will conduct areawide analysis of collision trends analyzing:

- Collision types
- Injury severity
- Vehicle Code Violation
- Temporal Characteristics of Bicycle-Related collisions (months, times of day)

Task 6: Recommended Citywide Bicycle Network

To review and refine bicycle routes in City of Fresno, we propose a series of working sessions with the TAC and staff to set the evaluation framework and selection criteria for the City of Fresno bicycle system. This framework generally consists of criteria such as need, safety, available right of way, connectivity and directness, barriers, multi-mode linkages, safety and conflicts, and security. Drawing heavily on the GIS processes described in Tasks 4 and 5, the Consultant will map this information during the planning sessions, showing existing bicycling patterns, major destinations, and potential corridors.

Task 6.1 – Recommended Bikeway System and Programs (Team)

Recommended improvements will most likely fall into one or more of the following categories:

a. New or relocated bicycle routes, lanes, or paths
b. Crossing protection (loops, signals, signs, lighting)
c. Support facilities (racks, lockers, showers, and parking facilities)
d. Educational and promotional materials and events

e. Changes in roadway striping and signage
f. Paving, grate replacement, shoulder widening
g. Changes in on-street parking
h. Zoning changes/additions, performance standards
i. Improved maintenance program
j. New bike paths along waterways, canals, powerlines, and former/active railroads
k. Road diets

Task 6.2 – Downtown Fresno (Team)

We will evaluate methods to increase the number and type of bicycle service to Downtown Fresno. This will include:

- New or enhanced on-street bicycle facilities
- Bike Boulevards
- Use of railroad ROW for new off-street trails
- Review of accessibility of the Fresno City Hall
- Diagonal Parking
- Bicycle parking
- On-street parking
- Traffic management devices
- Bike on transit options

We will develop a plan that would provide connectivity to regional bicycle facilities to allow commuters to ride to Downtown and allow users to get around Downtown on bike. We will review the use of diagonal parking on bicycle routes in the City of Fresno and other jurisdictions. This will include a review of the California Vehicle Code to determine responsibilities for automobiles and bicycles.

Task 6.3 – Potential New Class I Corridors (Waterways, Canals, Powerlines, Former Railroad Corridors) (Designlab 252)

As part of the recommendation process, we will develop concept designs for high priority new Class I bike paths along waterways, canals, powerlines, and former railroad lines. The Consultant will work with FID and FMFCD to identify the location of new off-street trails. The consultant will provide planning level details regarding trial location, design, and cost.

The Consultant will also prepare graphics for a class I bike trail such as the proposed Veteran's Trail to show how the trail can perform as a memorial, artwork, education opportunity, exercise, commuter, landscaping, and visual improvement to an area.

Task 6.4 – New Crossings Concept Plans (Mark Thomas)

We will analyze high priority new crossings (freeway, railroad, canals, rivers) identified in the inventory, workshops, and needs analysis and develop concept designs to identify basic feasibility, right-of-way, and cost factors. This will allow the City to identify funds and proceed with formal feasibility and design work on these facilities. New crossings may include new at-grade crossings (both signalized and unsignalized), new under crossings, and new over crossings. Concept plans, elevations, and sections will utilize available base mapping and other information, and be at a suitable scale and level of detail for concept design. The consultant will provide planning level details regarding trail location, design, and cost.

Task 6.5 – Recommended Support Facilities (Fehr & Peers)

Support facilities for bicycle systems include signal loop detectors, lighting, signing, bicycle repair shops, bicycle racks and lockers, bike racks on buses, shower facilities, and staging areas at trailheads. We will describe and

classify support facility types whenever possible. For example, the Bicycle Federation of America defines lockers as Class I, covered locking racks as Class II, and exposed racks as Class III.

We will describe recommended improvements and standards as a series of specific standards, except at major destinations such as regional parks, where we will identify the actual number and type of support facilities. We will review existing city policies and zoning ordinances regarding bicycle facilities and provide recommendations to update the policies and ordinances.

Our recommendations will also include actions such as improved access to local and regional transit, bike racks on buses, methods of improving bicycle security such as Bike Corrals (card-access secure areas), bike storage areas in attended parking lots and garages, building access and restriction guidelines based on the City of Portland, Oregon's, extensive bike parking guidelines, and recommended designs for bike racks and lockers.

Task 6.6 – Grant Ready Fact Sheets (Fehr & Peers)

We propose to develop Project Description Sheets for 15 high priority bicycle improvements. The sheets contain detailed information on each recommendation, including how the project addresses existing problems (gap closure, safety, maintenance, etc.), location, width, length, classification, existing and proposed suitability, adjacent land uses, estimated costs, expected riders, ranking, and responsibility for implementation and maintenance. Cross sections will be included that illustrate how bikeway would be accommodated.

Task 6.7 – Wayfinding Sign (Mark Thomas)

We will develop a wayfinding sign type that can be installed on on-street bike lanes and off-street bike trails to guide riders to other lanes/paths and to major destination. We will provide examples of wayfinding signs from other jurisdictions. We will work with the TAC to develop a unique sign logo for the City.

Task 7: Implementation Strategy

The Consultant will work with the City staff from Planning & Development Department, Public Works Department, Parks, and other departments (as appropriate) to formulate an implementation strategy that includes details on cost, responsible department, scheduling, and appropriate funding.

We will develop an Implementation Plan for fundable, high priority projects over the next 10 years, along with an unconstrained implementation plan for the next 20 years.

Task 7.1 – Ranking and Phasing of Recommendations (Fehr & Peers)

We will rank the recommended programs and improvements according to general planning criteria and submit them to staff for review and comment. We will use a Decision Matrix to attach weight to each criterion and determine which recommendations meet the highest number of criteria listed. These criteria will consist of those listed below and others developed with staff.

1. Closure of critical gap or correction of bottleneck in existing system
2. Improvement or program that serves an immediate safety need
3. Segment that will attract a high use
4. Current availability and/or suitability of right of way
5. Service to all parts of City of Fresno
6. Cost effectiveness
7. Integration into the existing regional bikeway system

8. Interface with other modes

9. Local political and community support

The Consultant will evaluate the recommended programs and improvements according to specific criteria listed in funding sources such as SAFETEA-LU and TDA Article 3 bulletins. Each source requires a different type of project and documentation of impacts and benefits. Because of this, the selected routes or improvements will be developed in sufficient detail to qualify for the most stringent program requirements.

Other criteria to be applied from SAFETEA-LU includes an emphasis on commuter routes, coordination with adjoining community trails and bikeways, coordination with other modes (transit), a completed trail and bikeway plan, compatibility with the Regional Bicycle Master Plan, use of multiple sources for funding, and meeting Caltrans Design Manual Chapter 1000 guidelines.

Our team will work closely with the staff throughout the selection and ranking process, lending expertise on funding, planning, and design guidelines when required.

We will develop a Phasing Plan based on the ranking outcome combined with (a) funding availability and requirements, (b) other programmed transportation improvements, (c) eliminating an immediate bottleneck or safety hazard, and (d) promoting rational system growth rather than a series of disconnected pieces over time. The Phasing Plan will recommend a ranking (low, medium, high) to accomplish a Phase I and II system over the next 10 to 20 years.

Task 7.2 – Monitoring, Maintenance, and Security (Quad Knopf)

We have successfully assisted cities and counties in the creation of monitoring programs through both dedicated staff and ongoing citizen volunteer efforts (often through the Advisory Committee format). The purpose of the monitoring effort is to (a) ensure that the system is adequately maintained and promoted, (b) integrate and coordinate various City department efforts, (c) maintain strong regional support, and (d) promote use and enjoyment of the system through promotional and educational events. We will recommend an organizational format for monitoring the System.

We will estimate maintenance and other operating expenses (including added policing costs). We will develop a recommended maintenance program that identifies minimum tasks and schedules, including erosion control, street sweeping, surface repair, and other efforts. We will investigate maintenance options such as Adopt and Trail or other volunteer efforts to provide maintenance or trail clean up.

Specific safety and maintenance improvements may include:

Crossing Protection: Identify busy intersections where bicycle traffic exceeds a certain threshold and may warrant new crossing protection in the form of signals, striping, loop detectors for signals, additional lighting, and signage.

Surface Condition: As part of the regular public works maintenance program, identify the condition of the trail and bicycling surface and correct obstructions or other hazards such as grates, railroad tracks, and potholes. Obvious hazards that cannot be corrected may result in relocating the bike lane.

User Conflicts: Properly design and engineer Class I paths. Since Class I paths typically attract a wide variety of users, from bicyclists to joggers to roller skaters, proper design will resolve most problems until usage exceeds a certain threshold. At that point, bike speed restrictions may have to be enforced. In all but the most crowded bike paths in California, a 12 foot striped right of way with shoulders is adequate.

Security: Provide enforced levels of security for motorists and bicyclists, adhering to the CA State Vehicle Code. Provide added security levels for multi-use trails and Class I bike paths, which may require a dedicated “roving patrol.” We will meet with the CHP and Police Department to determine their requirements for providing an acceptable level of security on the proposed system, and what cost implications that may have. The police and

fire departments will be consulted and asked to review the proposed Class I designs to determine if there is (a) adequate access and (b) adequate protection for adjoining land uses.

Task 7.3 – Capital Cost Estimates (Mark Thomas)

We will develop initial cost estimates for the priority bicycle facilities. The cost estimates will include construction costs, environmental review costs (if needed), structure costs (if needed), right-of-way acquisition costs, traffic signal modification costs, traffic control device costs, and engineering costs.

7.4 – Develop Implementation Funding Plan (EPS)

EPS envisions that our portion of the work program will be separated into three subtasks:

- Identification of funding sources;
- Implementation Plan feasibility analysis; and,
- Providing Economic and Financial Technical Support.

Each of these proposed subtasks are described below.

7.4.1 Identification of Funding Sources

EPS will work with the project team and City staff to identify potential funding sources including both existing and new funding mechanisms. Sources will be identified to fund both initial capital improvements and ongoing operations and maintenance (O&M) of the proposed bikeway facilities. This work effort will include an evaluation of Federal, State, regional, and local revenues comprising the following sources:

- Program revenues;
- Grant revenues;
- Loan programs;
- Development impact fees;
- Park Impact Fees;
- Special tax districts;
- Government exactions (e.g., facilities in lieu of funding); and
- Donations/Other funding sources.

EPS will prepare a technical memorandum that discusses the relative merits of potential these funding sources for capital and O&M costs.

7.4.2 Prepare Implementation Funding Plan Feasibility Analysis

As part of developing the Implementation Funding Plan, EPS will work with the project team and City staff to quantify the estimated cost and timing for specifically identified implementation projects. Once the estimated cost and timing have been determined, EPS will prepare a financing strategy for the proposed projects. The financing strategy will include both a summary of sources and uses of funds for the development of capital improvements, and a cash flow analysis of funding O&M costs. This financing strategy will include a determination of project feasibility.

The product of this analysis will be a technical memorandum that summarizes: the capital costs identified by Mark Thomas in Task 7.3 and O&M costs identified by Quad Kopf in Task 7.2 to fund the proposed bikeway improvements. The technical memorandum will also identify financing mechanisms; address any opportunities that may exist to jointly use the proposed bikeway facilities with other agencies (e.g. Fresno Irrigation District); estimate revenues from each source (where quantifiable); and provide criteria or action items that would be necessary to obtain identified revenues.

7.4.3 Provide Economic and Financial Technical Support

Throughout the development of the Implementation Plan, EPS will provide additional limited economic and financial technical support to the Project Team and the City, as needed. For instance, Task 6 reviews and evaluates recommended bikeway improvements and selection criteria. Task 7 prioritizes and arranges recommended programs and improvements in the development of an implementation plan. EPS would be available to provide assistance with the analysis of financing and feasibility implications such as opportunities to leverage other assets or funding sources (in Tasks 6.2, 6.4, 7.1, 7.2, and 7.3). EPS also anticipates that additional technical financial analysis may be required depending upon the type of proposed implementation projects. EPS will review the existing Park Impact Fee to determine how trails were included in the impact fee. As park of the review, EPS will separate out the Trail Impact fee from the Park Impact fee or if the park impact fee was based on 3 acres per thousand did that include trails in that 3 acres of open space.

The goal of the fee program is allow developers to work together to have cross country class 1 bike trails that do not go around a subdivision but rather through a subdivision. The fee program should allow a developer to build an entire half mile of a trail that extends past the limits of their property and get reimbursements for any trail component in excess of their fair share to the City wide trails impact fee program (if one is developed).

Task 8: Education and Public Awareness

Task 8.1 – Handbook (Fehr & Peers)

We will create a customized Bicycle Safety, Marketing, and Education Handbook that identifies existing local and regional efforts and presents a standardized approach that can be used by the City of Fresno. Typical marketing strategies include:

System Identification: Create an identifying logo and name for the existing and proposed bicycle system, and place it on signs throughout the City. Place directional signs at strategic locations to help first-time users in the area find their destinations. We will provide examples from other communities.

Community Adoption: Maintain and promote trail and bicycle routes by having neighborhoods, employers, or other groups “adopt” a route, similar to that being done on interstate highways.

Bike Fairs and Races: Organize events such as fairs and races to promote the City of Fresno bicycle facilities to get people excited about riding and becoming familiar with the facilities. Develop an outline for a program and develop brochures/education materials to educate elementary school children on the proper use of bicycle facilities and equipment. The program could include on-site presentations, bike rodeos, and rules of the road handouts or video.

Employer Incentives: Coordinate promotional events between City of Fresno and major Fresno employers, so they will encourage their employees to walk and bicycle to work. Create a competition between employees and employers for bike to work days. Create a competition at schools for the percentage of grade levels that ride their bikes. Require bicycle lockers and access to shower facilities. The City may provide incentives to employers who encourage bicycle commuting by reducing the parking requirement. Employers may also provide commuter bicycles as incentives. Create a “Bike Fresno” Campaign that companies can become part of and educate their employees and customers.

Task 9: Environmental Evaluation

The proposed Bicycle Master Plan will require environmental evaluation and documentation upon adoption by the City of Fresno. In accordance with California Environmental Quality Act (CEQA) Guidelines and City of Fresno environmental procedures, it is anticipated that the project will require a Negative or Mitigated Negative Declaration, or a Finding of Conformity with the City of Fresno 2025 General Plan Master EIR (depending on City preference).

Quad Knopf is available to prepare an Initial Study/Mitigated Negative Declaration or Finding of Conformity for the project in order to characterize the environmental setting surrounding and affected by the proposed project, to identify any significant impacts attributable to the project, and to develop any necessary mitigation measures designed to reduce identified potentially significant project impacts on the environment to less than significant levels. The level of significance of adverse impacts will be based on thresholds that will be identified utilizing the General Plan criteria, the State CEQA Guidelines, City CEQA Guidelines and other existing plans, policies and programs. Level of significance will be identified, both before and after mitigation. Impacts that are less than significant will be noted. Practical, enforceable, and feasible mitigation measures will be recommended for significant impacts. Measures already required pursuant to existing federal, State or local statutes, City regulations or policies, and applicable environmental documents will be described; however, they will be considered to be already incorporated in the project and not recommended as additional mitigation measures. Impacts and mitigation measures will specifically consider goals, policies and mitigation measures in the City General Plan.

Quad Knopf will consult with any responsible or trustee agencies for resources potentially affected by the project. Some of the issues anticipated to be addressed in the environmental document include:

- Air Quality
- Biological Resources
- Cultural Resources
- Land Use & Planning
- Population & Housing
- Public Services
- Recreation
- Transportation & Traffic

Quad Knopf is available to assist in all noticing, filing and distribution requirements according to CEQA Guidelines and City environmental processing procedures.

Task 10: Bicycle Master Plan Report

Task 10.1 – Reports and Maps (Fehr & Peers)

We will submit working papers on each task in the Scope of Work. We will assemble and submit these working papers as a draft report to staff for review and comment. We will utilize large-scale maps for working sessions and presentations. The Maps will be provided to the City in both paper form as well as electronic to be placed on the webpage. The BMP document will also be provided in paper form as well as electronic to be placed on the webpage.

Task 10.2 – BTA Elements (Fehr & Peers)

The Consultant will ensure that the Plan covers all required elements from the Bicycle Transportation Account (BTA), and the Plan is organized and formatted as needed to facilitate review/approval by Fresno COG and Caltrans.

1. SCHEDULE

The graphic on the next page illustrates the proposed schedule to complete the City of Fresno Bicycle Master Plan.

FresnoBMP_Schedule